ABSTRACT OF THE DISCLOSURE

To obtain frame synchronization and identify the cell codegroup in a cellular communication system (such as a system based upon the standard 3GPP FDD), there are available the synchronization codes organized in chips or letters transmitted at the beginning of respective slots. Slot synchronization is obtained previously in a first step of the operation of cell search. During a second step, there are acquired, by means of correlation or fast Hadamard transform, the energy values corresponding to the respective individual letters with reference to the possible starting positions of the corresponding frame within the respective slot. Operating in a serial way at the end of acquisition of the aforesaid energy values of the individual letters, or else operating in parallel, the energies of the corresponding words are determined. Of these energies only the maximum word-energy value and the information for the corresponding starting position are stored in a memory structure. Said maximum value and said starting position identify, respectively, the cell codes and the frame synchronization sought. One application is in mobile communication systems based upon standards such as UMTS, CDMA2000, IS95, or WBCDMA.